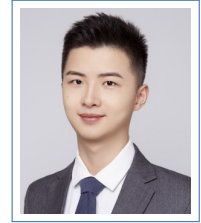


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# Yu Liu (Louis)

*towards the human-level machine perception and decision*

## Work Experience

- 2021-now **(part-time) Principal Investigator, Shanghai AI Lab**, Shanghai  
Head of Decision Intelligence Research Center.
- 2019-now **GM & Research Director, SenseTime Group**, Hong Kong  
In charge of 4 departments, 100+ members in total
- **General Manager of Game Business Unit:**  
Game+AI products and solutions towards the metaverse, human-like AI Bot & AIGC.
  - **Director of Decision Intelligence Research Center:**  
Fundamental RL research and large-scale distributed AI system (OpenDILab).
  - **Director of Base Model Research Center:**  
Large-scale vision understanding, AutoML system and extremely huge model for long tail task serving.  
Support 60+% product lines in SenseTime.
  - **Director of X-Lab:** An incubator for novel research projects.
- 2019-2019 **Research Intern, Google AI**, Seattle, USA  
Research on AutoML, RL and neural network understanding  
**Core contributions:** [link](#)
- 2016–2019 **(part-time) Lead Researcher, SenseTime Ltd.**, Beijing/Hong Kong  
R&D team leader  
Large-scale object/face detection and recognition  
Optimization problems in training lightweight models  
Generic computer vision tasks (classification, detection, recognition, image generation, etc.)
- 2015–2016 **Research Intern, Microsoft Research (Asia)**, Beijing, China  
Intern of Vision Computing group.

## Education

- 2017-2019 **Ph.D, MMLab, The Chinese University of Hong Kong**, Hong Kong  
RI: optimization problems in large-scale detection / retrieval and autoML.  
with **Google PhD Fellowship 2019**  
Full time PhD student & part time team lead in SenseTime Group.  
Supervisor: Xiaogang Wang
- 2012-2016 **B.E., computer science / math, BeiHang University**, Beijing, China  
Bachelor degree with the best bachelor thesis (1/230)  
with **Microsoft Young Fellowship 2015**

## Publication on Conference

\*equal contribution    +corresponding author

- ICLR 2022 **UniFormer: Unified Transformer for Efficient Spatial-Temporal Representation Learning**  
Kunchang Li, Yali Wang, Peng Gao, Guanglu Song, **Yu Liu**, Hongsheng Li, Yu Qiao
- ICCV 2021 **Switchable K-class Hyperplanes for Noise-robust Representation Learning**  
Boxiao Liu, Guanglu Song, Manyuan Zhang, Haihang You, **Yu Liu**<sup>+</sup>
- CVPR 2021 **Actor-Context-Actor Relation Network for Spatio-Temporal Action Localization**  
Junting Pan, Siyu Chen, Mike Zheng Shou, **Yu Liu**, Jing Shao, Hongsheng Li

- ECCV 2020 **Discriminability Distillation in Group Representation Learning**  
Manyuan Zhang, Guanglu Song, Hang Zhou, **Yu Liu**<sup>+</sup>
- ECCV 2020 **Learning Where to Focus for Efficient Video Object Detection**  
Zhengkai Jiang, **Yu Liu**<sup>+</sup>, Ceyuan Yang, Jihao Liu, Gao Peng, Qian Zhang, Shiming Xiang, Chunhong Pan
- CVPR 2020 **Search to Distill: Pearls are Everywhere but not the Eyes**  
(oral) **Yu Liu**, Xuhui Jia, Mingxing Tan, Raviteja Vemulapalli, Yukun Zhu, Bradley Green, Xiaogang Wang
- CVPR 2020 **Revisiting the Sibling Head in Object Detector**  
Guanglu Song, **Yu Liu**, Xiaogang Wang
- CVPR 2020 **Rotate-and-Render: Unsupervised Photorealistic Face Rotation from Single-View Images**  
Hang Zhou, Jihao Liu, Ziwei Liu, **Yu Liu**<sup>+</sup>, Xiaogang Wang
- AAAI 2020 **KPNet: Towards Minimal Face Detector**  
(oral) Guanglu Song, **Yu Liu**<sup>+</sup>, Yuhang Zang, Xiaogang Wang
- AAAI 2020 **Temporal Interlacing Network**  
Hao Shao, Shengju Qian, **Yu Liu**<sup>+</sup>
- ICCV 2019 **Enhanced Quality Aware Network for Video based Face Recognition**, (*workshop*) *Top-1 solution for ICCV19 LFR Challenge*  
**Yu Liu**, Guanglu Song, Manyuan Zhang, Jihao Liu, Yucong Zhou, Junjie Yan
- ICCV 2019 **Differentiable Kernel Evolution**  
**Yu Liu**, Jihao Liu, Ailing Zeng, Xiaogang Wang
- ICCV 2019 **Knowledge Distillation via Route Constrained Optimization**  
(oral) Xiao Jin, Baoyun Peng, Yichao Wu, **Yu Liu**, Jiaheng Liu, Ding Liang, Junjie Yan, Xiaolin Hu
- ICCV 2019 **Correlation Congruence for Knowledge Distillation**  
Baoyun Peng, Xiao Jin, Jiaheng Liu, Shunfeng Zhou, Yichao Wu, **Yu Liu**, Dongsheng Li
- CVPR 2019 **Conditional Adversarial Generative Flow for Controllable Image Synthesis**  
Rui Liu, **Yu Liu**, Xinyu Gong, Hongsheng Li, Xiaogang Wang
- AAAI 2019 **Gradient Harmonized Single-stage Detector**  
(oral) Buyu Li\*, **Yu Liu**\*, Xiaogang Wang (equal contribution)
- AAAI 2019 **Talking Face Generation by Adversarially Disentangled Audio-Visual Representation**  
(oral) Hang Zhou, **Yu Liu**, Ziwei Liu, Ping Luo, Xiaogang Wang
- ECCV 2018 **Transductive Centroid Projection for Semi-supervised Large-scale Recognition**  
**Yu Liu**, Guanglu Song, Jing Shao, Xiao Jin, Xiaogang Wang.
- CVPR 2018 **Exploring Disentangled Feature Representation Beyond Face Identification**  
**Yu Liu**, Fangyin Wei, Jing Shao, Lu Sheng, Junjie Yan, Xiaogang Wang
- CVPR 2018 **Beyond Trade-off: Accelerate FCN-based Face Detector with Higher Accuracy**  
Guanglu Song\*, **Yu Liu**\* (\*equal contribution)
- AAAI 2018 **Region-based Quality Estimation Network for Large-Scale Person Re-identification**  
Guanglu Song, Biao Leng, **Yu Liu**, Congrui Hetang, Shaofan Cai
- NIPS 2017 **Rethinking Feature Discrimination and Polymerization for Large-scale Recognition**, *Deep Learning Workshop*  
**Yu Liu**, Hongyang Li, Xiaogang Wang
- ICCV 2017 **Recurrent Scale Approximation for Object Detection in CNN**  
**Yu Liu**, Hongyang Li, Junjie Yan, Fangyin Wei, Xiaogang Wang, Xiaou Tang
- CVPR 2017 **Quality Aware Network for Set to Set Recognition**  
**Yu Liu**, Junjie Yan, Wanli Ouyang
- CVPR 2017 **Scale-Aware Face Detection**  
Zekun Hao, **Yu Liu**, Junjie Yan
- ECCV 2016 **POI: Multiple Object Tracking with High Performance Detection and Appearance Feature**  
Fengwei Yu, Wenbo Li, Quanquan Li, **Yu Liu**, Xiaohua Shi, Junjie Yan

- 2017 **Learning Deep Features Via Congenerous Cosine Loss for Person Recognition** , *arXiv preprint arXiv:1702.06890*  
Yu Liu, Hongyang Li, Xiaogang Wang

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## Publication on Journal

- 2018 **Zoom out-and-in network with map attention decision for region proposal and object detection** , *International Journal of Computer Vision (IJCV)*  
Hongyang Li, Yu Liu, Wanli Ouyang, Xiaogang Wang
- 2017 **Crafting GBD-Net for Object Detection**, *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)*  
Xingyu Zeng, Wanli Ouyang, Junjie Yan, Hongsheng Li, Tong Xiao, Kun Wang, Yu Liu, Yucong Zhou, Bin Yang, Zhe Wang, Hui Zhou, Xiaogang Wang
- 2016 **3-D Object Understanding with 3D Convolutional Neural Networks** , *Information Science*  
Biao Leng, Yu Liu, Kai Yu, Xiangyang Zhang, Zhang Xiong

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## Honors and Awards

- Won the **1th place** in CVPR20 ActivityNet 2020, AVA track
- Won the **1th place** in CVPR20 ActivityNet 2020, Kinetics track
- Won the **1th place** in NIST FRVT held by US government in 2020, 2021 and 2022
- Won the **1th place** in ICCV19 Multi-Moments in Time (MIT) Challenge
- Won the **1th place** in ICCV19 OpenImage Object Detection Challenge
- Won the **1th place** in ICCV19 OpenImage Instance Segmentation Challenge
- **Google PhD Fellowship** in 2019 (**1/China, 50/world**)
- Won the **1th place** in ICCV19 Lightweight Face Recognition Challenge
- Won the **1th place** in 2018 NIST-FRVT threshold based 1:N track
- Won the **1st place** in Multiple Objects Tracking Challenge (**MOT16**) in 2016
- Won the **1st place** in detection task of **ImageNet** (ILSVRC2016) in 2016
- The **best** graduation thesis in Beihang University in 2016 (1/230)
- **IEEE-Microsoft Young Fellowship** in 2016 (**40/world**)
- The **Outstanding Winner** of Challenge Cup in 2015 (**top 1/China**)
- The First Prize of Fengru Cup (top 2.8%) in 2015
- CCF Certified Software Professionals top 5% in 2015
- Won research fundings for NTPIEU as project leader in 2014
- Won “Learning Merit Scholarship” twice in 2013 and 2014
- Won “Competition of science and technology scholarship” twice in 2013 and 2014

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## TA Experience

- 2019 **ENGG2450A: Probability and Statistics for Engineers** , *CUHK*
- 2018 **ENGG2420B: Advanced Engineering Math**, *CUHK*
- 2018 **ENGG2450A: Probability and Statistics for Engineers** , *CUHK*
- 2017 **ELEG2401: Introduction to Embedded Systems**, *CUHK*
- 2015 **Object-oriented programming**, *BeiHang University*